

A natural hybrid between *Teinopalpus imperialis* and *T. aureus* (Lepidoptera, Papilionidae) from northern Laos

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Abstract A natural hybrid between *Teinopalpus imperialis* and *T. aureus* is reported for the first time from northern Laos where they are sympatric. In this specimen the wing markings as well as some other features exhibit exactly intermediate characters between the two species.

Key words Papilionidae, *Teinopalpus*, *Teinopalpus imperialis*, *Teinopalpus aureus*, northern Laos, natural hybrid.

Introduction

It is well known that hybridization occurs among closely allied species. As to lepidopterous species, because there have been a number of specimens collected by many enthusiasts for hundreds of years, many reports are known of natural or artificial hybridization even for the largest birdwings (Straatman, 1976) and the palaearctic apolloes (Yagi & Omoto, 2001), for instance.

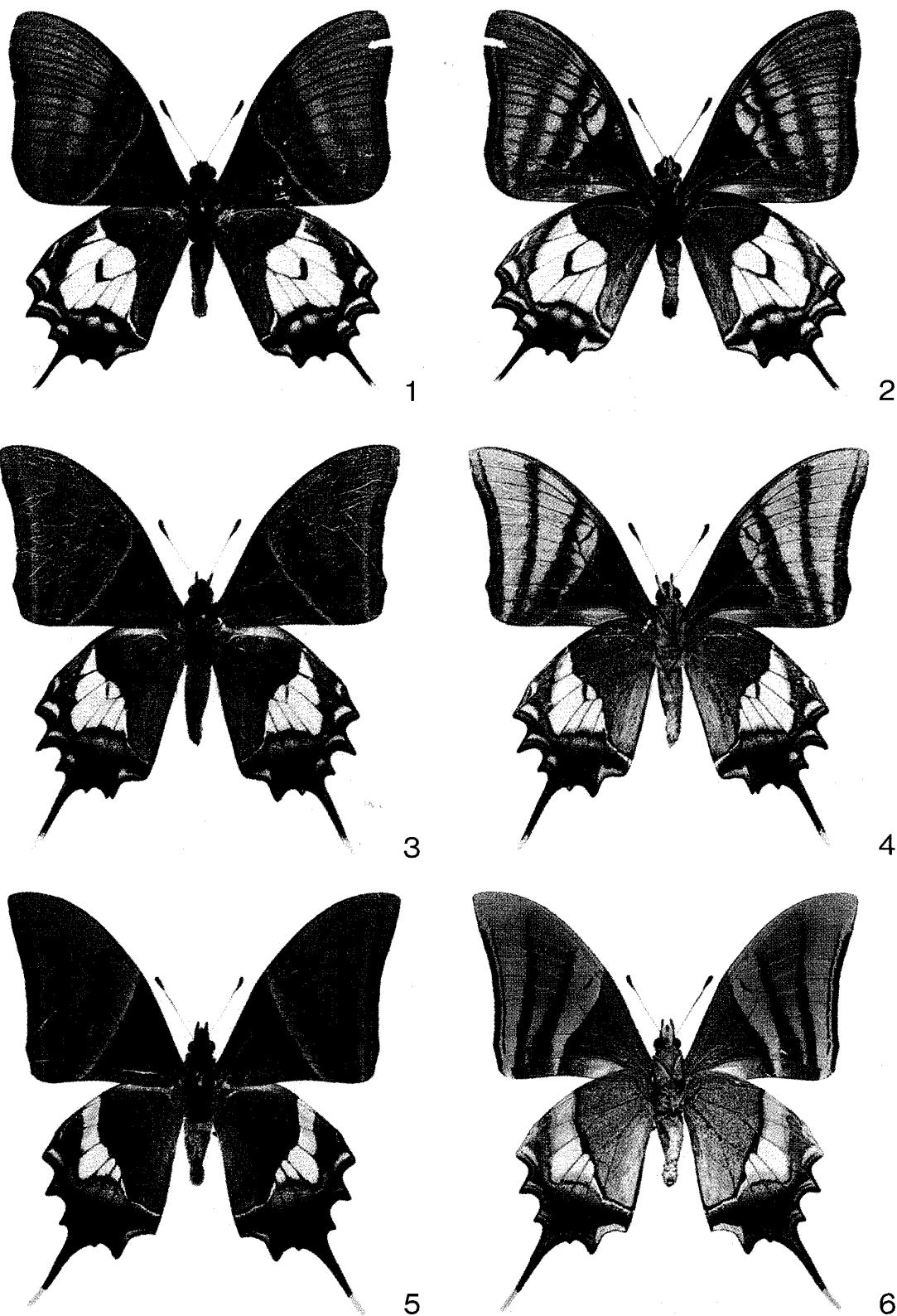
Since the discovery of *Teinopalpus imperialis* Hope, 1843 and *T. aureus* (Mell, 1923) from Xam Neua, northern Laos (Masui & Uehara, 1999, 2000), we have attempted close examinations of the *Teinopalpus* specimens from the locality to understand individual variations of the two species. To our surprise, quite incidentally, one of the *Teinopalpus* specimens is an intermediate in appearance between both species, which convinces us of the natural hybridization.

Specimen examined. 1 ♂ (Figs 3–4), Xam Neua, northern Laos, July 4, 1999.

The above-mentioned hybrid (♂) along with the typical specimens (♂), all from the same locality, are shown in Figs 1–6. The external characters of the hybrid compared with the two species are as follows.

Wing shape and size. Generally similar to *imperialis*, especially in the acute forewing apex. Length of forewing 54 mm, which falls within the normal range of the two species; in the figured specimens, length of forewing 55 mm in *aureus* (Figs 1–2) and 52 mm in *imperialis* (Figs 5–6).

Wing markings. 1) Forewing upperside. Similar to *imperialis*. 2) Forewing underside. Ground color pale brown, with basal one-third tinged with black. Markings in the outer area similar to *imperialis*, while those in the basal area similar to *aureus*. 3) Hindwing. Median yellow marking intermediate both in size and in shape, but somewhat similar to *aureus* in narrowing towards costa. Marginal yellow lunules developed as in *aureus*. 4) Paler area of tip of hindwing tail pale orange and ca 3.5 mm in length; both coloration and length intermediate between *aureus* (yellow and ca 2.5 mm in length) and *imperialis* (deep orange and ca 5.0 mm in length).



Figs 1-6. *Teinopalpus* specimens from Xam Neua, northern Laos. 1-2. *T. aureus*, ♂, 19. iii. 2000 (1: upperside, 2: underside). 3-4. Natural hybrid, ♂, 4. vii. 1999 (3: upperside, 4: underside). 5-6. *T. imperialis*, ♂, 29. viii. 2000 (5: upperside, 6: underside).

Abdomen. Coloration of hair on ventral surface yellow in *aureus*, green in *imperialis*, and intermediate between them in the hybrid.

Antennae. Uniformly dark brown in color, while in *aureus* antenna uniformly black and in *imperialis* uniformly brown.

Discussion

In Xam Neua, northern Laos, the locality where this hybrid was collected, *T. imperialis* and *T. aureus* are distributed sympatrically, and it was reported that they are only temporally segregated (Masui & Uehara, 2000). This suggests that the occurrence of natural hybridization is highly possible. The discovery of this hybrid specimen convinces us that *T. imperialis* and *T. aureus* are very closely related species.

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摘 要

北ラオスで採集されたテングアゲハとオウゴンテングアゲハの自然雑交個体について (上原二郎・増井暁夫)

テングアゲハ, *Teinopalpus imperialis* とオウゴンテングアゲハ, *T. aureus* は北ラオスのサムヌアに混棲分布することが知られる。今般, サムヌアで採集された *Teinopalpus* 属の1個体を検したところ, 両種の間間的な外観を有し, 自然雑交により生じたものと判断されたので記録する。本個体の存在は, 両種の近縁性を示すものと考えられる。

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